# Determination of Public Land (Rangeland) Health for 64063 BROWN BROTHERS

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the Brown Brothers allotment #64063 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land riparian areas on this allotment, therefore this standard was not addressed.

| | |
|---|---|
| /s/ T. R. KREAGER | 07/21/2004 |
| Assistant Field Manager | Date |

# Standards of Public Land Health
# Evaluation of 64063 BROWN BROTHERS Allotment
# [ 06/15/2004 ]

The Roswell Field Office conducted rangeland health assessments at one study site within the Brown Brothers Allotment #64063. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

| **Study Area or Assessment Area** | UPLAND | | | BIOTIC | | | RIPARIAN | | |
|---|---|---|---|---|---|---|---|---|---|
| | Meets | Monitor an Indicator | Does Not Meet | Meets | Monitor an Indicator | Does Not Meet | Meets | Monitor an Indicator | Does Not Meet |
| 64063-IDSU-A162 | X | | | X | | | N/A | | |

Twenty-two (22) indicators for Rangeland Health were evaluated for the public land on the Brown Brothers allotment #64063. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected on one location were utilized to assess the rangeland health of the public land within the allotment. This allotment is in the "C" (custodial) category due to small amount of public land present.

Less than favorable climatic conditions have impacted this allotment and surrounding area over the last few years. The ecological site is a very shallow CP-4 on 1129 acres/470 hectares. The soil phase is Ector-Rock outcrop complex on 0-9% slopes. The gently rolling Ector soil and Rock outcrop occurs on limestone hills in the western and southwestern part of the survey area. At present, no livestock were observed, but pronghorn (Antilocapra americana) were seen traversing the uplands and utilizing the forb component in the swales and side slopes.

The majority of indicators assessed, rated in the None to Slight to Slight to Moderate category. The site is typical of very shallow rocky soil with little forage production. The rock cover is significant and contributes to the total ground cover readings. Litter movement is almost non-existent. Loamy swales and pockets are also intermixed with rock with most of it embedded. Plants such as tobosa (Pleuraphis mutica), burrograss (Scleropogon brevifolius), acacia (Acacia spp.), feather dalea (Dalea formosa), croton (Croton spp.) and Wright's buckwheat (Eriogonum wrightii) can be found in varying quantities. Annual production rates Moderate with approximately 1/2 of the expected forage was estimated. Litter amount also rates Moderate as very small amounts of litter were observed. The effects of southwestery winds has possibly limited this component.

Physical and biological crusts are evident with some breaks in continuity and this indicator rates Slight to Moderate.

Wildlife - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and plant mortality & decadence, as discussed above. In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation.

All biotic indicators fell within the Slight to Moderate rating. Considering present climate regimes, two indicators, annual production and litter, should be be expected to fall within the normal range of variability and rated as Moderate. In the area of concern, this is not the case. Range condition appears to be very good considering the drought conditions that has prevailed over several years. As the area of interest falls within an ecotone between the Chihuahuan desert and grasslands biome, desert shrub components can be expected in the area and would increase with declining range site conditions and overall drying conditions over time.

Wildlife Habitat and Population indicators rate None to Slight, primarily for desert mule deer (Odocoileus hemionus), pronghorn and a variety of non-game terrestrial species. The composition of vegetation reflects the very shallow range site, current climatic conditions, e.g., drought for the past several years, the area being within an ecotone of the Chihuahuan desert and grasslands. Habitat conditions appear very good to excellent with a variety of microhabitats such as loamy swales and sinkholes found throughout the area. With respect to Special Status Species, none are known to occur in the area of interest at this time and the Habitat and Population indicators are, therefore, rated None to Slight.

Hydrology - The rills, water flow patterns, pedestals and/or terracettes, bareground, gullies, wind scoured, blowouts, and or deposition areas, litter movement, soil surface resistance to erosion, soil surface loss or degradation, plant community composition and distribution relative to infiltration and runoff, compaction layer, litter amount, and physical/chemical/biological crusts indicators have rated as none to slight or slight to moderate. Limestone and gypsum deposits of the San Andres Formation outcrop in the area.

It is the professional opinion of the Assessment Team that the public land with the Brown Brothers allotment #64063, meets the Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for additional information regarding this ecological site.

**Recommendations:**

| RFOs Upland and Biotic Standard Assessment Summary Worksheet | | | |
|---|---|---|---|
| **SITE 64063-IDSU-A162** | | | |
| Legal Land Desc | NENE 7 0110S 0230E Meridian 23 | Acreage | 1129 |
| Ecosite | 070DY158NM VERY SHALLOW CP-4 | Photo Taken | Y |
| Watershed | 13060008130 BERRENDO | | |
| Observers | NAVARRO/BAGGAO | Observation Date | 06/15/2004 |
| County Soil Survey | NM666 CHAVES SOUTH | Soil Var/Taxad | |
| Soil Map Unit | EcC | Soil Taxon Name | ECTOR |
| Texture Class | NM666 CB-L | Soil Phase | ECTOR-ROC |
| Texture Modifier | NM666 COBBLY LOAM | | |
| Observed Avg Annual Precipitation | | Observed Avg Growing Season Precipitation | |
| NOAA Annual Precipitation | 6.47 | NOAA Growing Season Precipitation | 4.39 |
| NOAA Avg Annual Precipitation | 12.22 | NOAA Avg Growing Season Precipitation | 10.15 |
| Disturbances and Animal Use: | Very little disturbance exists. Cave/karst features in the form of sinkholes can be observed throughout the area. No cattle can be seen at the time of evaluation. A couple of pronghorn bucks were observed utilizing the higher upland area where the site is located, which indicates the presence of a forb component. | | |

**Part 2. Attributes and Indicators**

| | | Departure from Ecological Site Description/Ecological Reference Areas | | | | |
|---|---|---|---|---|---|---|
| Attribute | Indicators | Extreme | Moderate to Extreme | Moderate | Slight to Moderate | None to Slight |
| | | | | | | |
| S H | Rills | | | | | X |
| Comments: | | | | | | |
| S H | Water Flow Patterns | | | | | X |

| | | | | | | |
|---|---|---|---|---|---|---|
| Comments: | Very short-matches. | | | | | |
| S H | Pedestals and/or Terracettes | | | | | X |
| Comments: | | | | | | |
| S H | Bare Ground | | | | X | |
| Comments: | Rock cover is significant. | | | | | |
| S H | Gullies | | | | | X |
| Comments: | | | | | | |
| S | Wind-scoured, Blowouts, and/or Deposition Areas | | | | | X |
| Comments: | | | | | | |
| H | Litter Movement | | | | | X |
| Comments: | Very little movement. | | | | | |
| S H B | Soil Surface Resistance to Erosion | | | | X | |
| Comments: | Loamy swales and pockets-intermixed in rock. | | | | | |
| S H B | Soil Surface Loss or Degradation | | | | X | |
| Comments: | Rocks are still embedded. | | | | | |
| H | Plant Community Composition and Distribution Relative to Infiltration and Runoff | | | | X | |
| Comments: | | | | | | |
| S H B | Compaction Layer | | | | | X |
| Comments: | | | | | | |
| B | Functional/Structural Groups | | | | X | |
| Comments: | At present we have tobosa, burrograss, acacia, dalea and Wright's buckwheat. | | | | | |
| B | Plant Mortality/Decadence | | | | X | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Comments: | The drought has had an impact. | | | | | |
| H B | Litter Amount | | | X | | |
| Comments: | Some litter exists, but mostly in the swales and higher productive areas. | | | | | |
| B | Annual Production | | | X | | |
| Comments: | About 50% of potential is observed. | | | | | |
| B | Invasive Plants | | | | X | |
| Comments: | | | | | | |
| B | Reproductive Capability of Perennial Plants | | | | X | |
| Comments: | Only slightly limited. | | | | | |
| S | Physical/Chemical/Biological Crusts | | | | X | |
| Comments: | Both physical and biological with some breaks in the continuity. | | | | | |
| B | Wildlife Habitat | | | | | X |
| Comments: | Rolling hills of very shallow soil with pockets of loamy swales and sinkholes. Species of concern include desert mule deer, pronghorn and a variety of non-game terrestrial species. Very good habitat condition due to recent precipitation and grazing rest. Access is limited to and from the area. | | | | | |
| B | Wildlife Populations | | | | | X |
| Comments: | No specific wildlife population data at this time. Populations would appear to be stable considering that habitat disturbances either through livestock grazing or other developments. | | | | | |
| B | Special Status Species Habitat | | | | | X |
| Comments: | None known to occur. | | | | | |
| B | Special Status Species Populations | | | | | X |
| Comments: | None known to occur. | | | | | |
| | | | | | | |
| **Part 3. Summary** | | | | | | |
| A. Indicator Summary - Each of the indicators are associated with one or more of the | | | | | | |

attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

| Standard Attribute | | Extreme | Moderate to Extreme | Moderate | Slight to Moderate | None to Slight |
|---|---|---|---|---|---|---|
| S | Soil | 0 | 0 | 0 | 4 | 6 |
| H | Hydrologic | 0 | 0 | 1 | 4 | 6 |
| B | Biotic | 0 | 0 | 2 | 6 | 5 |

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

| Attribute | Rationale | Does Not Meet | May Need More Info | Meets |
|---|---|---|---|---|
| Soil | | 0 | 0 | 10 |
| Hydrologic | | 0 | 1 | 10 |
| Biotic | | 0 | 2 | 11 |

Site Notes: Mule deer and pronghorn inhabit this area. The ecological site is very rocky and access is via Brown Road, through the back east side and then westward along two-track and fenceline. The site was GPs'd and evaluation was performed at the high point before the saddle. Photographs were taken also.


6. 15. 2004


6. 15. 2004